

SEQUENCE LISTING

5 <110> Olivera, Baldomero M.
McIntosh, J. Michael
Yoshikami, Doju
Cartier, G. Edward
Luo, Siqin
University of Utah Research Foundation

10 <120> Uses of Alpha-Conotoxin Peptides
<130> Uses of Alpha-Conotoxins

15 <140>
<141>

<150> US 60/080,588
<151> 1998-04-03

20 <150> US 60/070,153
<151> 1997-12-31

<160> 13

25 <170> PatentIn Ver. 2.0

<210> 1
<211> 17
<212> PRT
30 <213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:generic
alpha-conotoxin sequence

35 <220>
<221> PEPTIDE
<222> (1)..(6)
<223> Xaa at residue 1 is des-Xaa, Tyr, mono-iodo-Tyr or
40 di-iodo-Tyr; Xaa at residue 2 is any amino acid;
Xaa at residue 5 is any amino acid; Xaa at residue
6 is any amino acid.

<220>
45 <221> PEPTIDE
<222> (8)..(12)
<223> Xaa at residues 8, 10, 11 and 12 may be any amino
acid; Xaa at residues 13, 14, 15 and 16 may be
des-Xaa or any amino acid.

50 <400> 1
Xaa Xaa Cys Cys Xaa Xaa Pro Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15
55 Cys

<210> 2
60 <211> 16
<212> PRT
<213> Conus magus

<400> 2

Gly Cys Cys Ser Asn Pro Val Cys His Leu Glu His Ser Asn Leu Cys
 1 5 10 15

5 <210> 3
 <211> 17
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 <213> Artificial Sequence

10 <220>
 <223> Description of Artificial Sequence:Tyr derivative
 of C. magus MII

15 <400> 3
 Tyr Gly Cys Cys Ser Asn Pro Val Cys His Leu Glu His Ser Asn Leu
 1 5 10 15
 Cys

20
 25 <210> 4
 <211> 16
 <212> PRT
 <213> Artificial Sequence

30 <220>
 <223> Description of Artificial Sequence:FAT derivative
 of C. magus MII

35 <400> 4
 Gly Cys Cys Ser Asn Pro Val Cys Phe Ala Thr His Ser Asn Leu Cys
 1 5 10 15

40 <210> 5
 <211> 16
 <212> PRT
 <213> Conus aulicus

45 <400> 5
 Gly Cys Cys Ser Tyr Pro Pro Cys Phe Ala Thr Asn Ser Asp Tyr Cys
 1 5 10 15

50 <210> 6
 <211> 17
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55 <220>
 <223> Description of Artificial Sequence:Tyr derivative
 of C. aulicus AuIA

60 <400> 6
 Tyr Gly Cys Cys Ser Tyr Pro Pro Cys Phe Ala Thr Asn Ser Asp Tyr
 1 5 10 15

Cys

<210> 7
 <211> 15

<212> PRT
<213> Conus aulicus

5 <400> 7
Gly Cys Cys Ser Tyr Pro Pro Cys Phe Ala Thr Asn Ser Asp Cys
1 5 10 15

10 <210> 8
<211> 16
<212> PRT
<213> Conus aulicus

15 <400> 8
Gly Cys Cys Ser Tyr Pro Pro Cys Phe Ala Thr Asn Ser Gly Tyr Cys
1 5 10 15

20 <210> 9
<211> 16
<212> PRT
<213> Conus purpurascens

25 <400> 9
Gly Cys Cys Ser Leu Pro Pro Cys Ala Ala Asn Asn Pro Asp Tyr Cys
1 5 10 15

30 <210> 10
<211> 16
<212> PRT
<213> Artificial Sequence

35 <220>
<223> Description of Artificial Sequence:A10L derivative
of C. purpurascens PnIA

40 <400> 10
Gly Cys Cys Ser Leu Pro Pro Cys Ala Leu Asn Asn Pro Asp Tyr Cys
1 5 10 15

45 <210> 11
<211> 16
<212> PRT
<213> Artificial Sequence

50 <220>
<223> Description of Artificial Sequence:N11S derivative
of C. purpurascens PnIA

55 <400> 11
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1 5 10 15

60 <210> 12
<211> 16
<212> PRT
<213> Conus purpurascens

<400> 12
Gly Cys Cys Ser Leu Pro Pro Cys Ala Leu Ser Asn Pro Asp Tyr Cys
1 5 10 15

<210> 13

| | |
|-----------------------|----|
| $\langle 211 \rangle$ | 12 |
|-----------------------|----|

<212> PRT

<213> Conus imperialis

<400> 13

Gly Cys Cys Ser Asp Pro Arg Cys Ala Trp Arg Cys

1

15

10

10

Figure 1 consists of 12 histograms arranged in a single column, labeled x_1 through x_{12} on the left. Each histogram shows the frequency of non-zero elements in the vector x_k . The x-axis for each histogram is labeled x_k and ranges from 0 to 10. The y-axis is labeled 'Frequency' and ranges from 0 to 10. The distributions are roughly bell-shaped and centered around 5, with the peak frequency increasing from 10 for $k=1$ to 12 for $k=12$.